

WHAT IS CLAIMED IS:

1. An apparatus for facilitating the installation of a number of fasteners into an intramedullary nail implanted in a patient, said apparatus comprising:

means for aligning and guiding a device used in installing a respective fastener into a respective hole in said intramedullary nail; and

means, adapted to be fixedly coupled to said patient, for enabling the aligning and guiding means to be moved to a desired location and for holding the aligning and guiding means in said desired location.

2. An apparatus according to claim 1, in which the enabling and holding means remains fixedly coupled to said patient when more than one of said fasteners are respectively installed into holes in said intramedullary nail.

3. An apparatus according to claim 1, wherein the aligning and guiding means includes removable means for targeting.

4. An apparatus according to claim 3, wherein the aligning and guiding means is moved to a target location such that said targeting means is aligned with the respective hole and wherein the aligning and guiding means includes means for locking the aligning and guiding means in said target location.

5. An apparatus according to claim 1, wherein said device is at least one of a drill, a drill bit, a depth gauge, and a screwdriver.

6. An apparatus according to claim 1, wherein the aligning and guiding means includes means for locking the aligning and guiding means in said desired location.

7. An apparatus for installing a number of distal screws into an intramedullary nail implanted in a patient, said apparatus comprising:

a foundation unit adapted to be fixedly coupled to said patient; and

a targeting/guiding unit adapted to be attached to said foundation unit and adaptable for targeting and guiding a device or devices used in installing a respective distal screw into a distal hole in said intramedullary nail, said targeting/guiding unit being movable to a desired location by an operator when attached to said foundation device so as to be aligned with the respective distal screw hole.

8. An apparatus according to claim 7, further comprising a guiding insert and a targeting insert having a targeting spike, in which each of said guiding insert and said targeting insert is couplable to said targeting/guiding unit.

9. An apparatus according to claim 8, wherein said targeting/guiding device is movable to the desired location by the operator when attached to said foundation unit and when said

targeting insert is coupled to said targeting/guiding unit so as to align said targeting spike with the respective distal screw hole and wherein said targeting/guiding unit enables an installation device used in installing a distal screw into the respective distal screw hole to be guided when said guiding insert is coupled to said targeting/guiding unit.

10. An apparatus according to claim 7, wherein said targeting/guiding unit includes a locking device for holding said targeting/guiding unit in said desired location.

11. An apparatus according to claim 10, further comprising a handle adapted to be coupled to said targeting/guiding unit for facilitating the movement thereof by said operator.

12. An apparatus according to claim 11, wherein said handle includes means for activating said locking device.

13. An apparatus according to claim 12, wherein said targeting/guiding unit further includes means for releasing said locking device such that said targeting/guiding unit is not held in said desired location.

14. An apparatus according to claim 12, wherein said foundation unit includes a number of alignment rods and wherein said targeting/guiding unit is attachable to said number of alignment rods.

15. An apparatus according to claim 14, wherein said number of alignment rods are movably arranged in said foundation device.

16. An apparatus according to claim 15, wherein said locking device includes a number of brake elements each coupled to a respective alignment rod.

17. An apparatus according to claim 12, wherein said handle further includes means for de-coupling said handle from said targeting/guiding unit when the activating means activates said locking device.

18. A method for installing a number of distal screws into an intramedullary nail implanted in a patient, said method comprising the steps of:

attaching a foundation device to said patient;

aligning a target device with a respective distal screw hole in said intramedullary nail implanted in said patient; and

guiding an installation device by use of an alignment device coupled to said foundation device and without the use of a X-ray device, said installation device being used in installing a respective distal screw into the respective distal screw hole in said intramedullary nail aligned by said target device.

19. A method according to claim 18, in which the foundation device remains attached to said patient and is not moved when more than one of said distal screws are respectively installed into distal screw holes in said intramedullary nail.

20. A method according to claim 18, wherein the target device is a targeting spike which is insertable in a holding member coupled to said foundation device and is arranged therein during the aligning step, and wherein the alignment device is insertable in said holding member and is arranged therein during the guiding step.

21. A method according to claim 20, further comprising the step of locking the holding member in the location wherein said targeting spike is aligned with the respective distal screw hole in said intramedullary nail.

22. A method according to claim 20, wherein said installation device is at least one of a drill, a drill bit, a depth gauge, and a screwdriver.

23. An apparatus for facilitating the installation of a number of distal screws into an intramedullary nail implanted in a patient, said apparatus comprising:

means for aligning a target device with a respective distal screw hole in said intramedullary nail implanted in said patient; and

means, aligned by said target device, for guiding an installation device used in installing a respective distal screw into the respective distal screw hole in said intramedullary nail without the use of a X-ray device.

24. An apparatus according to claim 23, further comprising a foundation device coupled to the aligning means and adapted to be fixedly coupled to said patient.

25. An apparatus according to claim 23, further comprising a foundation coupled to the aligning means and adapted to be fixedly coupled to an external structure.

26. An apparatus according to claim 23, wherein said device is at least one of a drill, a drill bit, a depth gauge, and a screwdriver.

27. An apparatus for targeting a location on a patient during a medical procedure, said apparatus comprising:

means, having more than three degrees of freedom, for aligning a target device with respect to a desired location on the patient;

means for locking the aligning means in a position corresponding to said desired location; and

means, aligned by said target device, for guiding a medical device used in said medical procedure.